# Improvement,

AND

# Seasonable Advice

TO ALL

## Gentlemen and Farmers,

How to prepare the Ground fit for Sowing Hemp and Flax-Seed;

The Nature of it, with Directions How to Sow it, when Ripe how to pull it, and preserve the Seed when ripe;

With Directions for Watering, Breaking, Swingling and Preparing it fit to be Hackell'd.

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# *Reaſons for the ſpeedy Sowing great quantities of Flax and Hemp in this Kingdom for the carrying on the Linnen Manufacture already ſet up.*

WHereas Their Moſt Sacred Majeſties King *William* and Queen *Mary* ( out of Their Princely Wiſdom and Care of this Kingdom, and for the bringing down the greateſt Enemy of it, the French King ) have been Graciouſly pleaſed at the humble Petition of *N. D.* Eſquire, and *H. Million*, and divers Honourable Worthy Gentlemen which did joyn with them, to Erect a Corporation, for the Setting up, and perpetual Eſtabliſhing a Linnen Manufacture in *England*, by their Letters Patents bearing date *May* 27. 1690.

And whereas the ſaid Corporation for the better Eſtabliſhing the ſaid Manufacture in all parts of the Kingdom, and for the advancing Land thereby, and ſetting the Poor on Work, have purſuant to the ſaid Letters Patents, admitted divers worthy Patriots to be Members of their Corporation, and thereby have raiſed a very conſiderable Stock, conſiſting of many Thouſands of Pounds. And whereas alſo they have already ſet up the Linnen Manufacture, and made a very conſiderable progreſs in it, at *Salisbury* Exchange in *London*, and elſewhere, and have about ſix Thouſand People at work already, and intend from thence to Branch it into other Parts of the Kingdom, with all convenient ſpeed. And laſtly, Whereas the ſaid Corporation, that they may be ſupply'd with Materials of

 Engliſh

Engliſh Growth, in the making all ſorts of Linnen (for the greater benefit of the Nation, and the better anſwering the Ends of their Incorporation.) This Paper is now ſent abroad, by a Lover of his Kingdom the better to publiſh and make known theſe things, and thereby to advance a work ſo beneficial to the whole Kingdom, as alſo to lay before all Countrey Farmers, and Occupiers of Land, the following Reaſons why they ſhould contribute their part to it, in the fulleſt manner, and with the greateſt cheerfulneſs, by Sowing forth with as great quantities of Flax and Hemp, as their preſent conveniences will enable them to do. The Reaſons are theſe.

1. That the Fleet, the great Bulwark of the Nation, and all the Merchants Ships of *England*, may be ſupplied with Sails and Cordage the next year, and that all the people of the Kingdom may be ſupplied with Linnen of all ſorts for their many neceſſary uſes, and all this by our own Work, and our own Materials, without ſending Money out of the Nation, for that which may be had within it.

2. Becauſe Corn and Cattel are ſo cheap (and there is ſo vaſt a ſtore of the former) that they will not pay the Rent of their Lands, and the neceſſary Charges beſtow'd upon them, but Flax and Hemp will do much more, becauſe they bear a double Crop at the ſame time, one of Seed and another of Flax or Hemp, both which Crops will be very conſiderable the next year, for the Seed will be bought up at good Rates to Sow again, and the Flax and Hemp cannot be cheap, becauſe Linnen Cloth is exceſſively dear already, and likely to be dearer (becauſe ſcarcer) before the next Crop of Flax and Hemp will come to make Cloth. I need not mention the great gains which ſome Men have made of their Crops of Flax this laſt

laſt year, who have paid all their Charge, and the Rent of their Land with the Flax Seed.

But this I muſt ſay, that (in all probability) their Gains will not be leſs, if they be not greater the next year. And 'tis every ones Intereſt, to put in for a ſhare of the firſt and greateſt profit, which will be the greater, becauſe many men will not venture, till they ſee the ſucceſs of their Neighbours, and others will be long unwilling to go out of their old Road, though the new path be much better for them.

3. Becauſe the more Corn is ſown in *England*, and the more Cattel bred and fatted this year, the cheaper will the preſent ſtock of Corn and Cattel become, which now lies dead upon the Farmers hands, and the cheaper will the ſtock be alſo which they ſhall raiſe, and add to it either in this, or in the following year. Therefore thoſe that Occupy Lands (whether they be Farmers or Owners) muſt turn as much Arable, and as much Grazing Land as they can to Flax and Hemp.

4. Becauſe if the Linnen Manufacture does not go on in *England* (whether for want of a ſufficient quantity of Flax and Hemp, or by other diſcouragements of the Engliſh themſelves) the greateſt part of the poor will have no work (or very little) and therefore no Money, and then they cannot buy, either of the Farmer, the Butcher, the Baker, or the Shopkeeper. and yet they muſt and will be fed and clothed. And therefore on that ſuppoſition, the Landlord, the Farmer, the Shopkeeper, and the reſt that have ſomething, muſt then keep the Poor in all things, and that alſo though their own condition will be very much worſted at the ſame time, by the fall of Land, by the breaking of Tenants, by the loſs of Trade, and by the cheapneſs of all Inland Commodities. Beſides, they muſt all pay Taxes too at the ſame time. But

if the Linnen Manufacture go on and proſper apace (as hitherto it doth beyond expectation) the Poor will have work, and by conſequence Money, (for the Linnen Corporation pay all their Workmen ready Money as ſoon as their work is done) and by conſequence the Poor will then buy with their own Money which themſelves have Earned, the Commodities of the Farmer and the Tradeſmen. And then the Farmer will live and pay Rent to his Landlord, and the Shopkeeper will look up, for all their Goods and Commodities will riſe, and their great charge to the Poor will abate, and more proviſions (of Corn, Cattel, and other things,) will be ſpent in the Nation than are at preſent, for when Men Earn Money they muſt ſpend it, and when they work hard, they will find it neceſſary to eat more than while they live Idle, or have but half Imployment. And then alſo they will wear out more of all kinds of Cloaths as well as of Working Inſtruments. Thus will the condition of all be very much better'd, and all be enabled to pay Taxes, which would not now be ſo heavy upon the middle ſort of People, or any other, if Corn and Cattel ſold well, if Rents were well paid, and Tradeſmen had a full Trade, or but tolerable good Cuſtom.

5. Becauſe as thoſe Publick Spirited Perſons, who by their Joint-Endeavours have now raiſed a great Stock of Money for the Linnen Manufacture ought by no means to be diſcouraged, that ſhall Endeavour to furniſh us with Engliſh Linnen, and other Goods, becauſe their good is evidently the Nations good, and becauſe they have ſupplied the great defect (the want of a large Stock) which has much hindered the ſucceſs of the Linnen Manufacture in *England*, as oft as attempted by worthy Perſons in times paſt, ſo if they be diſcouraged, and that Manufacture hinder'd amongſt us now, now we have ſuch a favourable

favourable opportunity to ſet it up ( during the preſent War with *France*, and the prohibition of all French Linnen ) we ſhall never retrieve it, we ſhall never have the like opportunity again. And if the Corporation to make Linnen, have not Engliſh Flax and Hemp ſufficient for the year enſuing, they muſt either buy Forreign, or their Manufacture will be at a ſtand, and if they do ſo, and buy a conſiderable deal, Forreign Linnen Yarn ( as well as Flax and Hemp ) will come in in ſuch quantities, and become ſo cheap, that you will not eaſily keep it out another year, nor regain the Ground you will loſe this next. For all Trade does run in a Channel, and will not be preſently diverted, or break its ſetled courſe.

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# CHAP. I.

## *Of the Soil.*

MOſt ſorts of Soils are fit, or may be made fit with good manuring, to ſow Hemp or Flax upon; the beſt is accounted to be a warm, ſandy ground mixed with Earth, and of this ſort of Earth fit places to ſow Hemp on, are old Meadows grown over with Moſs, old Stack-yards, and places kept in the Winter for the Lair of Sheep or Cattel.

If your ground is ſomething barren, you may enrich it as you do all other ſorts of grounds.

The ground fit for Hemp, may ſerve in many reſpects for to ſow Flax; but Flax being of a more tender nature, requireth alſo a more tender care, both for chuſing and manuring the ground you will ſow it upon; you muſt therefore make theſe following obſervations.

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The goodneſs and fineneſs of Flax dependeth much upon the nature of the Soil; for upon heavy and rotten Mooriſh ground, groweth that Flax, which is called great black Flax; upon black and light ground, groweth Flax which is of the colour of Steel; if your ground is of ſeveral colours, the Flax that ſhall grow upon it will participate of the nature of the Soil, and ſo will be of ſeveral colours too.

It will thrive in any good ſound Land, be it in what Countrey ſoever; and that ground is beſt which hath lain long unplowed: *As aforeſaid* the moſt fertile Soil is the beſt.

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## CHAP. II.

### *How to Till the Ground.*

After you have found your beſt ground, make it fit to ſow your Hemp or Flax, that it may the eaſier incorporate it ſelf with the Earth, to render it fit for your purpoſe. About the beginning of *May*, in a fair ſeaſon, break up your ground with a ſtrong Plough, ſuch as are generally uſed in all ſtrong Clay grounds, the Share being rather long than broad, and the Coulter rather ſomewhat bending than ſtraight, and even, according as the nature of the ground ſhall require; which you will ſoon find out in turning up two or three Furrows; for according to the cutting of the Earth, you muſt faſhion the temper of your Plough. To plow your Land well, you muſt throw down your Furrows flat, and betwixt every Furrow you ſhall leave a baulk of Earth half as broad as the Furrow, and ſo go over and plow your whole Earth up, without making any difference or diſtinction

ſtinction of Lands: But if you fear any annoyance of water, then you ſhall lay your Furrows more high, near, and cloſe together, dividing the ground into ſeveral Lands, and proportioning every Land to lye the higheſt in the middle, ſo that the water may have a deſcent or paſſage on either ſide.

The ground where you ſow your Hemp, would be like that where you ſow Barley, or at leaſt as often broken up, as you do when you fallow for Wheat, which is thrice, except it be ſome very mellow and ripe mould, as uſual Hemp-Lands be, and then twice breaking up is ſufficient, which muſt be done about the latter end of *February*, and the latter end of *April*, at which time you ſhall ſow it.

The ground for Flax muſt be ordered in the ſame manner, obſerving this, that the beſt Land yields the beſt Flax, and raiſeth the beſt Improvement. The Land muſt be well plowed and laid flat, and even. The beſt Land is old Meadows, which you muſt break up after mowing-time; plow it again about *Chriſtmas*, again in *February*, and *April*, then make it very fine. And note that poor Land bringeth a bad Crop, light ſtarveth, and withereth your Crop; too ſtiff bringeth moſt Bun or Pith, and very little Rind or Flax.

## CHAP. III.

### *Of the Seed, and the manner of Sowing.*

THE beſt Seed for Hemp is the ſmootheſt, roundeſt, and brighteſt, of a bright Colour, with the leaſt duſt in it; you muſt obſerve to Sow it reaſonable thick, and

and not to lay it too deep in the Earth, but cover it close, light, and with so fine a Mould as you can possibly break with your small Harrows, then till you see it appear above the Earth, you must tend it very carefully, especially an hour or two before Sun-rising, and as much before Sun-setting, for Birds, and other Vermine will pick the Seed out of the Earth. Your Ground being Cultivated in Autumn, will by the Winter Frosts be fit to receive your Seed; the latter end of *March*, or the beginning of *April*, the Moon being in the Wain, or declining, is a fit Season to sow your Seed, which you must immediately cover with the Earth, with a fine Harrow, or Bush, Harrowing it several times; if after that, you spread over it some Pidgeon dung, will be very useful to your Hemp, provided it may be done in moist Weather, for without moistness, the great heat of such Dung would burn the Seed.

The best Seed for Flax, is the cleanest, newest, and largest, heaviest, brightest, round and plump, all of one Colour, especially at the sharp end, free from Worms, or Mites, which by curious inspection may be seen without the help of Glasses; but the surest way to chuse the best, is to sow a little upon a hot Bed, numbring how many Grains you sow, in a Drachm, or any other weight; and observe how many come up, and how many do shoot above one shoot a piece; the Seed that was gathered from the first Crop of new broken up Ground is the best of all others; the second Crop is indifferent, but the third is not fit to be sowed, but will yield good Oyl.

This Seed must be sowed in a warm Season, immediately after plowing at any time in *April*. That Seed that cometh from the East Countrey is usually very good, although it costs dear, yet it will easily repay the charge, and will last indifferent well, two Crops, then it is best

to

to renew it again: But our own Countrey Seed is as good as any, being well managed by a conſtant change. Of the beſt, two Buſhels may ſerve on an Acre, but more of our Engliſh Seed, becauſe it groweth ſmaller; you muſt be ſure to ſow it on good Land, the beſt Ground requireth to be thickeſt ſowed; wet the underſide of your Thumb, lay it upon the Ground, obſerve if it take up five, ſix or ſeven Seeds at once, accordingly you may judge proportionably to the goodneſs of the Ground; if you have under ſowed, (which generally moſt err in) it gives room to Weeds, and makes the Flax grow courſe, and ſpread into Branches, which yields much Tow. In a wet Summer Flax is very apt to lodge, and be ſpoiled, which may be prevented as ſoon as you have done ſowing, by ſticking all over the Ground branches or cuttings of Trees, or Hedge-rows of two years growth, ſtanding or leaning, not above a foot and half high above Ground, which will prevent the Flax to lodge; if the Seed be more than juſt covered in fine duſt, it will hardly come up, in caſe the Wind dry or wither the Seed, before or after it is ſowed, and you will loſe your Crop; ſow in temperate dry weather, but not when the Eaſt, or North Wind bloweth very hard.

## CHAP. IV.

### *Of Harrowing and Weeding.*

YOur Ground being thus plowed and ſowed, be careful to harrow it into as fine mould as you can; now if your Ground be ſown with Hemp, you ſhall not need to Weed it at all, becauſe Hemp is ſo ſwift a grower,

er, and ſuch a Poyſon unto all the Weeds, that it over-runneth, choaketh, and deſtroyeth them.

The ſame muſt be done concerning Flax, obſerving this only, that as it is much more a tender Seed, which brings forth more tender Leaves and Branches, you muſt watch what Weeds you ſee ſpring up, and in their firſt growth pluck them up, and throw them away, till you ſee your Flax to be grown above the Weeds, and then you may let it alone, for after it hath once gotten heighth, the Weeds won't over-grow it, and ſo can do it no harm. But the Ground ſhould be ſuch as will produce as few Weeds as poſſible, weeding being dangerous.

## CHAP. V.

### *How to know when Hemp and Flax are ripe, and the manner of pulling and ſeaſoning of them.*

YOU will know that your Hemp is ripe, when the ſtalk is grown white, or when you ſee the Leaves fall downward and turn yellow at the tops, for then it is full ripe; this will happen for the moſt part about the middle of *July*. As for the pulling of Hemp, it muſt be pulled up by the Roots, and not cut as Corn, and the beſt time for the pulling of it, is when it is full ripe; this is for pulling of Hemp for to make Cloth, but if you intend to ſave any for Seed, you muſt ſave the principal ſtalks and let them ſtand till the latter end of *Auguſt*, or ſometime till the middle of *September* following, and then when you ſee your Seed turn brown and hard, gather it, for if it ſtand longer it will ſhed very much.

Flax

Flax is to be pulled in the ſame manner as Hemp, and it muſt be pulled when you ſee the Seed turn brown, and bend the head to the earth-ward; for it will afterward ripen of it ſelf, as the ſtalk drieth. Obſerve that the Flax ripeneth a little after Hemp, and ſet apart the Plants which bear no Seed to diſtinguiſh them.

And for the ſeaſoning of Hemp or Flax, ſo ſoon as you have pulled it, you muſt lay it all along flat and thin upon the ground, for a day and a night at the moſt, and no more, and then tie it up in bundles, and rear them upright upon the ground, till you can carry them to the water, which is to be done as ſpeedily as may be.

## CHAP. VI.

### *Of Watering of Hemp or Flax.*

FOR watering, the beſt water is the running ſtream, and the worſt is the ſtanding Pool; yet becauſe Hemp is offenſive to Fiſh, it is fitter to uſe ſuch Pits and Ditches as are leſs ſubject to annoyance, except you live near ſome broad and ſwift ſtreams, and then in the ſhallow part thereof you may water your Hemp without danger. You muſt water it in this manner; Knock to the quantity of your Hemp four or ſix ſtakes in each row into the bottom of the water, and ſet them ſquare-wiſe, then lay your bundles of Hemp down under the water, the thick end of your bundle one way, and the thick end of another bundle another way; and ſo lay bundle upon bundle, till you have laid in all, and that the water covereth them all over; then you ſhall put

over-lyers of wood, and binding them over-thwart to the ſtakes, keep the Hemp down cloſe, and eſpecially at the four corners, then take great Stones and lay between and over the over-lyers, and ſo cover the Hemp cloſe, that it may not ſtir, and ſo let it continue in the water four days and nights, if it be in a running water; but if it be in a ſtanding water, let it continue a little longer; and then take out one of the uppermoſt bundles and waſh it; if in the waſhing you ſee the Leaf come off, you may be ſure the Hemp is watered enough: As for the Flax, leſs time will ſerve it, and will ſhed the Leaf in three nights; and to know if it be ſufficiently watered, dry a little of it, break and rub it, and the bun or pith will all come clean out.

## CHAP. VII.

### *Of Waſhing out of Hemp, and Drying and Rippling of Flax.*

WHEN your Hemp or Flax is thus watered, take off the Stones, Over-lyers, or Wood, and unlooſen it from the ſtakes; then take and waſh out every bundle ſeverally by it ſelf, and rub it exceeding clean, leaving not a Leaf upon it, nor any filth within it; then ſet it upon the dry Earth, upright, that the water may drain from it, which done, rear it up either againſt hedges, pales, walls, back-ſides of houſes, or ſuch like, where it may have the full ſtrength or reflection of the Sun, and being throughly dryed, then houſe it.

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You muſt obſerve, that though you may carry your Hemp to the water within a night or two after the pulling, the ſame is not to be done with Flax, but it muſt be reared up, dryed and withered a week or more, to ripen the Seed, which being done, take Ripple Combs, and ripple your Flax over, which is the beating or breaking off from the ſtalks the round bells or bobs which containeth the ſeed, which you muſt preſerve in a dry Veſſel or place till the Spring of the year, and then beat it or threſh it, and when your Flax is rippled, then ſend it to the water.

## CHAP. VIII.

### *Of Breaking and Swingling of Hemp or Flax.*

After your Hemp or Flax hath been watered, dryed and houſed, you may then at your pleaſure break it, which is to be done in a brake of wood (whoſe proportion is ſo ordinary, that every one almoſt knows it) then break and beat out the dry bun of the Hemp or Flax from the rind which covers it, and when you break either, you ſhall do it as near as you can on a fair, dry, Sun-ſhine day, obſerving to ſet forth your Hemp and Flax, and ſpread it thin before the Sun, that it may be as dry as Tinder before it come to the brake; for if either in the lying cloſe together it ſhall give again or ſweat, or through the moiſtneſs of the Air or place where it lies, receive any dampiſhneſs, you muſt neceſſarily have it dryed ſufficiently again, or elſe it will never break well, nor the bun fall from the rind as it ſhould; but if the weather be not ſeaſonable, and you have occaſi-

on to uſe your Hemp or Flax, you ſhall then ſpread it upon a Kiln, and making a ſoft fire under it, dry it upon the ſame; but becauſe this is oft-times dangerous, and much hurt hath been received thereby through caſualty of fire, I would adviſe you to ſtick four ſtakes in the Earth, at leaſt five foot above the ground, and laying over them ſmall over-lyers of wood, and open ſleaks or hurdles upon the ſame, ſpread your Hemp, and alſo rear ſome round about it, but at one open ſide, then with ſtraw, ſmall ſhavings, or other light dry wood, make a ſoft fire under it, and ſo dry it, and break it; this will be done without any danger; and as you break it, you ſhall open your Hemp or Flax which you hold by handful, and look into it, beginning alwaies to break the root-ends firſt; and when you ſee the bun is ſufficiently cruſht, fallen away; or at moſt hangeth but in very ſmall ſhivers within the Hemp or Flax, then it is brakt enough; and then that which was before called a bait or bundle, is now called a ſtrike, lay them together, and ſo houſe them. This is beſt done in a large great Oven, becauſe it is not diſcoloured by the Smoke.

Now that your Hemp or Flax may break ſo much the better, you muſt have for Hemp two ſeveral braks; one muſt be an open and wide-tooth'd, or nickt brak, and the other a cloſe and a ſtraight-tooth'd brak; the firſt being to cruſh the bun, and the latter to beat it forth. Now for Flax, you muſt firſt take that which is the ſtraighter for the Hemp, and then after one of purpoſe, much ſtraighter and ſharper; for the bun of it being more ſmall, tough, and thin, muſt neceſſarily be broken into much leſs pieces. This muſt be uſed by a perſon uſed to break and ſwingle Hemp and Flax.

After

After your Hemp and Flax is brakt, ſwingle it, which is done upon a ſwingle-tree block, made of an half inch board about four foot above ground, and ſet upon a ſtrong foot or ſtock, that will not eaſily move and ſtir; and with a piece of wood, called the Swingle-tree-dagger, made in the ſhape and proportion of an old Dagger, with a reaſonable blunt edge, you ſhall beat out all the looſe buns and ſhivers that Hang in the Hemp or Flax, opening and turning it from one end to the other, till you can perceive no bun nor ſhiver in it; and then ſtriking a twiſt and fold in the midſt, which is ever the thickeſt part of the ſtrike, lay them by till you have ſwingled all; the general profit whereof, is not only the beating out of the hard bun, but alſo an opening and ſoftening of the Tear, whereby it is prepared and made ready.

Your Hemp and Flax being once ſwingled over, take and ſhape up the refuſe ſtuff which you beat from the ſame ſeverally, and not only it, but the tops and knots, and half brakt filth or waſte, which fall from the brake alſo, and drying them again, cauſe them to be very well threſht with Flails, and mixing them with the refuſe which fell from the Swingle-tree; dreſs them all well with threſhing and ſhaking, till they be clean: If you have no occaſion to uſe them for the preſent, lay them in ſome ſafe dry place till you have occaſion. You call theſe Swingle-tree hurds: That which comes from the Hemp will make window-cloth, and ſuch like courſe ſtuff; and that which comes from the Flax, being a little towed again in a pair of Tow-cards, will make a courſe harding, and this is ſufficient for the Market, and for ordinary ſale. But if you do intend to make Cloth, after your Hemp or Flax hath been ſwingled once over, you muſt ſwingle over a ſecond time; and as the firſt ſwingling did take away the filth, and ſoften

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the rind; ſo this will break and divide, and prepare it for the Heckle; the Hurds which are the ſecond time beaten off, you muſt alſo ſave; for that of the Hemp (being carded) will make a good Hempen-Harding, and that which comes from the Flax (uſed in that manner) a Flax-Harding, better than the former.

MVSEVM BRITANNICVM

*FINIS.*